

Virginia Division of Consolidated Laboratory Services

SAMPLE PREPARATION FOR VOLATILE ORGANIC COMPOUNDS
EPA 5000 REVISION 0 1996

Facility Name: _____ VELAP ID _____

Assessor Name: Analyst Name: Inspection Date

Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
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Records Examined: SOP Number/ Revision/ Date _____ Analyst: _____

Sample ID: _____ Date of Sample Preparation: _____ Date of Analysis: _____

Was a field blank prepared and carried through all sampling and storage as a check on contamination?	3.1				
Were sample purging devices rinsed or baked out thoroughly between samples to prevent carryover?	3.3				
Were the laboratories where analysis took place appropriately free from solvents, particularly methylene chloride?	3.4				
Was Table 1 consulted when choosing a method for any given volatile organic analyte and matrix?	7.0				
Were the methods in Table 1 properly followed when chosen?	7.0				
Did each analytical batch or sample batch of 20 or fewer samples contain a method blank, a LFM/LFMD or LFM/Dup pair, and an LCS unless the determinative method stated otherwise?	8.1 8.3.1				

Initial Demonstration of Proficiency

Did the laboratory conduct IDPs on each sample preparation and determinative method combination?	8.2				
Did the laboratory conduct IDPs whenever a new analyst began work or significant changes to instrumentation were made?	8.2				
Did IDPs include each four replicates with each analyte of interest in a clean matrix?	8.2.1				
Were the IDP reference samples handled in exactly the same ways as samples?	8.2.3 8.2.5				

Notes/Comments:

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Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
Quality Control					
Were the surrogates used chemically similar to the analytes of interest without being expected to occur in samples?	8.3.6				
Did the laboratory document and chart the effects of matrix on method performance?	8.4				
Notes/Comments:					

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SAMPLE PREPARATION METHODS FOR VOLATILE ORGANICS

Method No.	Matrix	Sample Preparation	Analytes
3585	Oily waste	Solvent dilution	Volatile organics
5021	Solids	Automated headspace	Volatile organics
5030	Aqueous	Purge-and-trap	Volatile organics
5031	Aqueous	Azeotropic distillation	Polar volatile organics
5032	Aqueous & solids	Vacuum distillation	Non polar and polar volatile organics
5035	Solids, organic solvents, oily waste	Closed system purge-and-trap	Volatile organics
5041	Air sampled by VOST	Purge-and-trap from VOST	Volatile POHCs

AIR SAMPLING METHODS FOR VOLATILE ORGANIC COMPOUNDS
FROM CHAPTER TEN OF SW-846

Method No.	Air Sampling Method	Sample Preparation	Analytes
0011	Aqueous solution of DNPH	Solvent extraction	Formaldehyde plus aldehydes & ketones
0030	Resin/charcoal	Purge-and-trap by 5041	Volatile organics
0031	Resin/Anasorb 747	Purge-and-trap by 5041	Volatile organics
0040	Tedlar® bag	Direct analysis with sample loop	Volatile organics
0100	DNPH-coated silica gel	Solvent extraction	Formaldehyde plus aldehydes & ketones

DNPH = Dinitrophenylhydrazine



TABLE 1

COMBINATIONS OF VOLATILE ORGANIC SAMPLE PREPARATION
AND DETERMINATIVE METHODS FOR SW-846

Determinative Method		Preparation Methods			
No.	Method Title	Aqueous Samples	Soil/Solid Samples	Waste Samples	Air Samples
8011	EDB & DBCP by GC/ECD	8011	None listed	None listed	None listed
8015	Nonhalogenated VOCs by GC/FID	5030, 5031, 5032	5021, 5031 5032, 5035	5032, 5035	None listed
8021	Aromatic and Halogenated VOCs by GC/ELCD & PID	5030, 5032	5021, 5032, 5035	5032, 5035	None listed
8031	Acrylonitrile by GC/NPD	8031, 5030, 5032	5032, 5035	5032, 5035	None listed
8032	Acrylamide by GC/ECD	8032	None listed	None listed	None listed
8033	Acetonitrile by GC/NPD	5031	None listed	None listed	None listed
8260	Volatile Organic Compounds by GC/MS	5030, 5031, 5032	5021, 5031 5032, 5035	5032, 5035	0030, 0031/ 5041, 0040
8315	Carbonyl Compounds by HPLC	8315	8315	8315	0011, 0100/ 8315
8316	Acrylamide and Acrylonitrile by HPLC	8316	None listed	None listed	None listed

DBCP = 1,2-Dibromo-3-chloropropane
 EDB = Ethylene dibromide (1,2-dibromoethane)
 VOCs = Volatile Organic Compounds
 GC = Gas Chromatography
 ECD = Electron Capture Detector
 ELCD = Electrolytic Conductivity Detector
 FID = Flame Ionization Detector
 HPLC = High Performance Liquid Chromatography
 MS = Mass Spectrometry
 PID = Photoionization Detector